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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,930	12/29/2000	Hong Wang	884.366US1	7985
21186	7590	12/18/2003	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.			DAS, CHAMELI	
P.O. BOX 2938			ART UNIT	
MINNEAPOLIS, MN 55402			PAPER NUMBER	
			2122	

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/751,930

Applicant(s)

WANG ET AL.

Examiner

C.DAS

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

1. This action is in response to the amendment filed on 11/7/03.
2. Claims 1, 13, 23 have been amended.
3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connors et al, "Compiler directed Dynamic Computation Reuse: Rationale and Initial Results", ACM, November, 1999 and further in view of Chaddha (US 6,215,910).
4. Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connors et al, "Compiler directed Dynamic Computation Reuse: Rationale and Initial Results", ACM, 1999, Chaddha (US 6,215,910) and further in view of Chung et al (5,481,472).
5. Claims 8, 10-12, 22, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connors et al, "Compiler directed Dynamic Computation Reuse: Rationale and Initial Results", ACM, 1999, Chung, (5481472), Chaddha (US 6,215,910) and further in view of Ozluturk et al (US 6,516,022).
6. Claims 13-14, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connors et al, "Compiler directed Dynamic Computation Reuse: Rationale and Initial Results", ACM, 1999, further in view of Chung et al (5,481,472).
7. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connors et al in view of Chung (US 5481472) and Chaddha (US 6,215,910).
8. Claims 17-18 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connors et al in view of Chung (5,481,472) and Lopresti et al (5,832,474).
9. Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connors et al in view of Chung (5,481,472) and Chhadda (6215910).

*Response to Arguments*

10. Applicant's arguments filed on 11/07/03 have been fully considered but they are not persuasive.

In the remark, the applicant has argued in substance:

(1) *The cited reference, Chaddha, US 6,215,901 is a nonanalogous art.*

*Response:*

(1) Examiner believes that Chaddha (US 6,215,901) is an analogous art because:

(i) Claim 1 recites "mapping n-dimensional architectural state vectors into a plurality of one-dimensional symbols". Chaddha discloses "mapping n-dimensional architectural state vectors into a plurality of one-dimensional symbols" (column 4 lines 33-35, "In the present case, a codebook design procedure used for tree-structured vector quantization is used, not to reduce computations, but to provide *a codebook that can be mapped readily to an embedded code*") and col 6 lines 43-44 ("The purpose of hierarchical lookup table is to map each image vector *may-to-one to each of the embedded indices*").

(ii) The present inventions discloses quantization process of mapping multi-dimensional architectural state to one-dimensional symbol (specification, page 4 lines 1-5), Chaddha discloses that discloses quantization process of mapping multi-dimensional architectural state to one-dimensional symbol (see col 4 lines 33-35 and col 6 lines 43-44).

(iii) The present inventions uses lossless compression algorithm (specification, page 5 lines 17-18), Chaddha uses lossless compression algorithm for mapping (Chaddha, col 6 lines 43-52, "The purpose of hierarchical lookup table is *to map* each image vector *may-to-one to*

*each of the embedded indices ... vectors that must be compressed with minimal loss of perceptually relevant information”).*

(2) *The claimed invention is dealing with the problems associated with increasing execution of application code.*

***Response:***

(2) The claim of the present invention does not recite this limitation.

(3) *The cited reference, Chung US 5,481,472 is a nonanalogous art.*

***Response:***

(1) Examiner believes that Chung US 5,481,472 is an analogous art because:

The present invention discloses computation reuse and compression algorithm. Chung references discloses data compaction, compression and computation reuse (Chung, Abstract, lines 1-6, “A methodology and apparatus for extracting repeated data from a large body of data for ***compaction*** and reproduction by step-and-repeat operations includes extraction of data based on common parameters and a variable parameter. Lists are formed from the extracted data after ordering and repeat displacements are ***computed***”), (Abstract lines 10-12, “A plurality of ***compressed data*** coding formats are provided and optimally applied during operation of the invention”), and (Col 12 lines 63-64, “The displacements and maximum delta are again ***computed as before***”).

For the above reasons the examiner believes that Chaddha, US 6,215,901 and Chung US 5,481,472 references are relevant with the present application. Therefore, the previous Office action has made out a prima facie case of obviousness.

*Conclusion*

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chameli Das whose telephone number is (703) 305-1339. The examiner can normally be reached on Monday through Friday from 7:00 A.M to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on 703-305-4552. The fax phone number for the organization where this application or proceeding is assigned are:

(703) 872-9306 (official fax), (703) 746-7240 (non-official/draft), (703)746-7238 (after final).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

*Chameli C. Das*

Chameli C. Das

Primary Patent Examiner

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12/12/03